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Dynamics of moss overgrowth in ditches in restorated drained mires in area of Modrava bogs (Šumava NP)

Abstract

This thesis is devoted to a research of induced and natural *Sphagnum* overgrowth in dammed ditches in restorated drained mires of Šumava National Park within the „Programme of Peatland restoration".

Induced overgrowth was studied on the peatlands Cikánská slať, Luzenská slať and Novohuťské močály and 36 permanent experimental sites were established for its study. In 2006 *Sphagnum fallax* or *Sphagnum majus* were placed in each site in dependence on the type of locality. For four years increase or decrease of *Sphagnum* were monitored.

The study of natural overgrowth was investigated on the same localities as induced overgrowth. The *Sphagnum* cover was noted in the year 2009 at 65 sites.

The depth of the ditch and the flow of water were the most important variables influencing natural overgrowth and the cover was almost the same on all localities.

In the case of induced overgrowth the most important parameters were depth and width of the ditch, amount of the branch support and the interaction of depth and width.

The depth of the ditch in the case of natural overgrowth was used to generate a model for prediction of *Sphagnum* cover. It was possible to compare the induced overgrowth with the natural overgrowth with the help of this model. Induced overgrowth turned up to be the most successful on the bogs Luzenská slať and Novohuťské močály where the measured cover on each site was higher than the cover predicted by the model. In the peat forest Cikánská slať induced overgrowth showed worse results and *Sphagnum* cover was in almost all cases zero.

Key words: peatland restoration, dammed ditches, *Sphagnum* overgrowth, Šumava NP